Remarks

The Office Action dated December 18, 2002 (Paper No. 9) has been carefully reviewed and the following comments are made in response. In view of the following remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims. Applicants respectfully submit that no prohibited new matter has been introduced by the amendments. Written support for the new claims can be found throughout the specification, in the original claims and in particular, can be found in the specification as set forth in the table below.

Claim	Support in Specification
56-58	Figures 1-2; page 4, lines 7-16; page 13, line 25 to page 14, line 9
59-64	page 6, lines 1-5
65, 66	page 45, lines 7-13; Figures 1-2
67	Figure 4; page 7, lines 4-15; page 10, lines 6-11
68-73	page 17, line 1 to page 19, line 21; page 20, lines 7-25
74-78	page 37, line 14 to page 38, line 20; Figures 3A and 3B

Summary of the Office Action

1. The restriction requirement was deemed proper by the Examiner and made final.

2. The Office Action noted the purported use of trademarks in the specification, indicating that they should be capitalized and accompanied by the generic terminology.

3. Claims 16 and 37 were objected to for containing informalities.

4. Claims 1, 3-4, 16, 32-36 and 38-40 were rejected under 35 U.S.C. 112 (second paragraph) purportedly for being indefinite.

6. Claims 1-4, 16, 32-36 and 38-40 were rejected under 35 U.S.C. 112 (first paragraph) as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time that the application was filed, had possession of the claimed invention.

7. Claims 1, 3, 4, 16, 35, 36 and 38 were rejected under 35 U.S.C. 102(b) as being anticipated by Grove *et al.* (1991) Mol. Cell Biol. 11, 5541-5550.

8. Claims 1, 3, 4, 16, 35, 36 and 38 were rejected under 35 U.S.C. 102(e) as being anticipated by Lal *et al.* (U.S. Patent 5,932,445).

Response to the Office Action

Claims 16 and 37 were objected to for the use of certain terms in the claim language. These claims have been cancelled, therefore the rejection is moot. The Examiner noted that trademarks, such as Eastman Kodak, New England Biolabs and Clontech, have been used in the specification and that these should be capitalized and accompanied by the generic terminology. Applicants confirm that the company names and product names used in the specification have been capitalized and that there are no instances where a product named in the specification lacks description by a generic name.

Rejections under 35 U.S.C. 112 (second paragraph)

Claims 1, 3-4, 16, 32-36 and 38-40 were rejected under 35 U.S.C. 112 (second paragraph) purportedly for being indefinite for failing to point out and distinctly claim the subject matter which Applicants regard as their invention. These claims have been cancelled, therefore the rejection is moot.

Applicants note, however, that claim 32 was rejected as being indefinite for reciting "a vector comprising the isolated nucleic acid ... operably linked to a promotor or transcription" (see Office Action at page 6, line 3). Applicants bring to the Examiner's attention that claim 68 recites one or more expression control elements which are defined in the specification on page 16, line 27 to page 17, line 12.

Rejections under 35 U.S.C. 112 (first paragraph)

Claims 2-4, 16, 32-36 and 38-40 were rejected under 35 U.S.C. 112 (first paragraph) as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time that the application was filed, had possession of the claimed invention. Claims 1-4, 16, 32-36 and 38-40 were also rejected under 35 U.S.C. 112 (first paragraph) allegedly because the specification, while being enabling for the molecules of SEQ ID NO: 1 and 2, does not reasonably provide enablement for variants of SEQ ID NO: 1 of any function, or vectors and host cells comprising said polynucleotides. These claims have also been canceled, therefore the rejections are moot. Nonetheless, Applicants bring to the attention of the Examiner that any of the substitute claims which are directed to a variant or fragment of SEQ ID NO: 2, all provide the feature that the claimed nucleic acid encode a protein with the same activity as SEQ ID NO: 2 (*e.g.*, phosphorylation). Applicants also bring to the attention of the Examiner that the specification discloses multiple examples of variants of SEQ ID NO: 2 which retain the same activity as SEQ ID NO: 2 (see Example 8 in the specification on page 44, line 19).

Rejections under 35 U.S.C. 102(e)

Claims 1, 3, 4, 16, 35, 36 and 38 were rejected under 35 U.S.C. 102(e) as being anticipated by SEQ ID NO: 10 of Lal *et al.* (Applicants note that Bandman is not one of the inventors listed on this patent as indicated in the Office Action). These claims have been cancelled, therefore the rejection is moot. In light of the substitute claims, however, Applicants submit that the claims are directed to an isolated nucleic acid molecule having at least about 85% sequence identity to SEQ ID NO: 1 along the entire length of the open reading frame, and an isolated nucleic acid molecule which encodes a protein comprising the amino acid sequence of SEQ ID NO: 2. Lal *et al.* does not disclose these claimed molecules.

Rejections under 35 U.S.C. 102(b)

Claims 1, 3, 4, 16, 35, 36 and 38 were rejected under 35 U.S.C. 102(b) as being anticipated by Grove *et al.* These claims have been cancelled, therefore the rejection is moot. In lieu of the substitute claims, however, Applicants note that the nucleotide sequence disclosed in this reference displays approximately 68% sequence identity in a region corresponding to nucleotides 100-1407 of Applicants' SEQ ID NO: 1 while the entire open reading frame of SEQ ID NO: 1 corresponds to nucleotides 77-1651. The cited reference does not disclose an isolated nucleic acid molecule comprising an isolated nucleic acid molecule which encodes a protein comprising SEQ ID NO: 2 of the instant invention, nor an isolated nucleic acid molecule with at least about 85% sequence identity along its entire open reading frame to SEQ ID NO: 2. Further, Grove *et al.* does not disclose an isolated nucleic molecule which encodes a protein containing one or more conservative amino acids substitutions of SEQ ID NO: 2 while retaining the activity of the protein of SEQ ID NO: 2 (*e.g.*, kinase activity) or an isolated nucleic molecule which encodes a fragment of the protein of SEQ ID NO: 2 and that also retains kinase activity.

Lack of Unity

Contrary to the Examiner's statement that "the technical feature linking Groups I and XIII would have been a polynucleotide encoding a p70 S6 kinase if all the claims as originally presented were drawn to the inventions of Groups I and XIII" in the Office Action (see page 2, lines 16-18), Applicants are aware of no condition in the PCT Rules that all the claims originally presented must have been in Groups I or XIII to be considered for unity of invention. Additionally, the Examiner states that the special

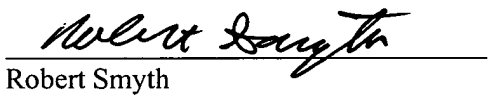
technical feature is p70 S6 kinase and not the polynucleotide encoding said kinase. Although the PCT Rules require that a special technical feature link the groups of claims that are considered one invention, no aspect of the PCT Rules allow the special technical feature to be first be chosen by Examiner and then applied to the claims. Respectfully, the Examiner's position is incorrect and Applicants request that the finding of lack of unity of invention for the claims of Groups I and XIII (now claims 74-78) be reversed.

Conclusion

Applicants respectfully request reconsideration of the subject application in view of the substitute claims and the above remarks. It is respectfully submitted that this application is now in condition for allowance. Should the Examiner believe it to be useful, an interview with the Examiner is respectfully requested in order to discuss the foregoing claims.

Except for issue fees payable under 37 C.F.R. 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application, including fees due under 37 C.F.R. 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0310. This paragraph is intended to be a **constructive petition for extension of time** in accordance with 37 C.F.R. 1.136(a)(3).

Respectfully submitted
Morgan, Lewis & Bockius LLP



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